

## SECTION IV.—RIVERS AND FLOODS.

## RIVERS AND FLOODS, MAY, 1918.

By ALFRED J. HENRY, Meteorologist.

[River and Flood Division, Weather Bureau, July 1, 1918.]

There were no severe floods during May, 1918, but in a number of States local floods caused the rivers to overflow the lowlands, causing more or less loss to agricultural interests on account of cost of seed and labor of replanting. As shown in detail by tables below, it will be noted that there were some overflows in the rivers of Arkansas, eastern Kansas—although the overflow was not great in that State—Indiana, Ohio, and Missouri. A freshet occurred in the Guadalupe River of Texas, also in the lower Rio Grande in the first decade of the month. Serious damage was not done.

The Mississippi in the stretch between Hannibal and Louisiana, Mo., reached the flood stage at the end of the month and remained at a relatively high stage during June. Heavy rain over the drainage area above Hannibal caused floods throughout June, to which further reference will be made in the June REVIEW. No material damage resulted from May floods in the middle Mississippi.

A summary of losses by river districts follows.

## Estimated loss by flood, May, 1918.

River district.	Tangible property: Bridges, etc.	Crops, prospective.	Live stock.	Suspension of business.	Value of Warnings.
Topeka, Kans.	\$20,000	\$130,000	.....	.....	.....
Terre Haute, Ind.	50,000	.....	.....	.....	\$10,000
Indianapolis, Ind.	30,000	.....	.....	.....	.....
Little Rock, Ark.	14,940	761,000	\$6,000	\$257,300	1,000,000

The monetary loss to prospective crops as given above is probably overstated, since in the case of corn there is time to replant, thus confining the loss to the outlay for seed and the labor of replanting.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

TABLE 1.—*Flood stages in Atlantic and east Gulf drainages during May, 1918.*

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<b>ATLANTIC DRAINAGE.</b>					
<i>Tar:</i>	<i>Feet.</i>				
Rocky Mount, N. C.	9			8.9	17-18
Tarboro, N. C.	18			17.0	19
Greenville, N. C.	13	(†)	21	14.7	* 28
Do.				13.6	20
<i>Nuse:</i>					
Neuse, N. C.	14	15	16	14.6	15
Smithfield, N. C.	13	15	17	17.0	17
<i>Cape Fear:</i>					
Elizabethtown, N. C.	22			20.3	16
<i>Waccamaw:</i>					
Conway, S. C.	7	(†)	10	9.3	1-2
<i>Black:</i>					
Kingstree, S. C.	12			11.8	19-20
<i>Santee:</i>					
Rimini, S. C.	12			11.9	1
Ferguson, S. C.	12	(†)	4	13.6	* 27
<b>EAST GULF DRAINAGE.</b>					
<i>Tombigbee:</i>					
Penopolis, Ala.	30	2	4	40.7	2
<i>Chickasawhay:</i>					
Enterprise, Miss.	21	1	2	22.4	1
Shubuta, Miss.	27			26.2	4
<i>Pearl:</i>					
Jackson, Miss.	20	1	12	22.9	4, 8
Pearl River, La.	13	9	9	13.1	9

\* April.

† Continued from April.

TABLE 2.—*Flood stages in Mississippi River drainage during May, 1918.*

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<b>MISSISSIPPI PROPER.</b>					
<i>Mississippi:</i>	<i>Feet.</i>				
Warsaw, Ill.	17			16.7	28
Hannibal, Mo.	13	29	(**)	14.0	31
Louisiana, Mo.	12	31	(**)	13.1	31
Quincy, Ill.	14			13.5	31
Arkansas City, Ark.	42			38.2	26-28
<i>Wisconsin:</i>					
Knowlton, Wis.	12	28	29	13.4	29
<i>Illinois:</i>					
Feru, Ill.	14			13.2	26
Henry, Ill.	7	26	(**)	7.3	30-31
Beardstown, Ill.	12	9	24	12.4	20-21
Do.		29	(**)	12.5	31
<i>Grand:</i>					
Chillicothe, Mo.	18	31	(**)	20.3	31
<i>Gasconade:</i>					
Arlington, Mo.	12	13	13	12.9	13

\*\* Continued into June.

TABLE 2.—*Flood stages in Mississippi River drainage during May, 1918—Continued.*

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From	To	Stage.	Date.
<b>MISSISSIPPI RIVER.</b>					
<i>Meramec:</i>	<i>Feet.</i>				
Steelville, Mo.	12	13	13	12.5	13
Pacific, Mo.	11	(†)	1	20.4	*28
Do.	14	15	15	17.4	15
Valley Park, Mo.	14	14	16	21.6	15
<i>Bourbeuse:</i>					
Union, Mo.	10	14	14	11.6	14
Do.	25	25	25	10.3	25
<i>St. Francis:</i>					
Marked Tree, Ark.	17			16.6	23-24 29-31
<b>OHIO BASIN.</b>					
<i>Little Kanawha:</i>					
Glenville, W. Va.	22	28	26	29.7	26
<i>Tuscarawas:</i>					
Coshocton, Ohio	8			7.6	14
Norris Point, Ohio	8			7.2	14
<i>Walhonding:</i>					
Walhonding, Ohio	8	13	13	10.5	13
<i>Scioto:</i>					
Bellpoint, Ohio	9	13	13	9.3	13
Circleville, Ohio	7	14	15	12.2	14
Chillicothe, Ohio	14	15	15	15.3	15
<i>Olcantangy:</i>					
Deaware, Ohio	9			8.9	13
<i>Elk:</i>					
Gassaway, W. Va.	24	25	25	24.8	25
<i>Miami:</i>					
Hamilton, Ohio	12	13	13	12.4	13
<i>Wabash:</i>					
Mount Carmel, Ill.	15	13	23	19.6	18
<i>White (East Fork):</i>					
Decker, Ind.	18	14	22	21.5	18-19
Shoals, Ind.	20	13	14	20.4	14
Do.	16	19	23.4		17
<i>White (West Fork):</i>					
Elliston, Ind.	19	13	16	22.6	14
<b>MISSOURI BASIN.</b>					
<i>Missouri:</i>					
Brunswick, Mo.	10			9.5	31
<i>Solomon:</i>					
Beloit, Kans.	16	22	23	17.3	22
<b>ARKANSAS BASIN.</b>					
<i>Arkansas:</i>					
Dardanelle, Ark.	20	13	13	20.3	13
<i>Petit Jean:</i>					
Danville, Ark.	20	14	15	20.8	14
<i>White:</i>					
Batesville, Ark.	23	12	17	36.3	14
Calico Rock, Ark.	18	12	16	33.3	13
Newport, Ark.	26	14	25	32.3	15
Georgetown, Ark.	22	16	(**)	28.3	20
Clarendon, Ark.	30	25	(**)	30.4	27-29
<i>Black:</i>					
Black Rock, Ark.	14	8	(**)	25.7	14
<i>Cache:</i>					
Jeeks, Ark.	9	21	(**)	9.8	24-25

† Continued from April.

\* April.

\*\* Continued into June.

TABLE 3.—*Flood stages in Great Lakes, West Gulf, and Pacific drainages, during May, 1918.*

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From	To	Stage.	Date.
<b>GREAT LAKES.</b>					
<i>Sandusky:</i>	<i>Feet.</i>				
Upper Sandusky, Ohio	13	15	15	13.0	15
<i>Cass:</i>					
Vassar, Mich.	14	27	28	14.7	27
<b>WEST GULF.</b>					
<i>Subline:</i>					
Logansport, La.	25			22.5	11
<i>Guadalupe:</i>					
Victoria, Tex.	16	3	3	16.1	3
Do.		5	5	16.4	5
<i>Rio Grande:</i>					
Rio Grande City, Tex.	15	4	6	23.5	5
<b>PACIFIC.</b>					
<i>Grund:</i>					
State Bridge, Colo.	9			8.6	10, 16
<i>Gunnison:</i>					
Sapinero, Colo.	16			15.6	25
<i>Gunnison, North Fork:</i>					
Paonia, Colo.	8	5	9	8.3	7
Do.		15	20	8.3	16-18
Do.		22	22	8.0	22
<i>Columbia:</i>					
Marcus, Wash.	24			23.6	20-21
Vancouver, Wash.	15			14.6	20
<i>Clearwater:</i>					
Kamiah, Idaho.	14			13.3	5
<i>Willamette:</i>					
Portland, Oreg.	15			14.1	20-21

**MEAN LAKE LEVELS DURING MAY, 1918.**

By UNITED STATES LAKE SURVEY.

[Dated: Detroit, Mich., June 7, 1918.]

The following data are reported in the Notice to Mariners of the above date:

Data.	Lakes.*			
	Superior.	Michigan and Huron.	Erie.	Ontario.
Mean level during May, 1918:				
Above mean sealevel at New York.....	Feet. 601.74	Feet. 581.64	Feet. 572.20	Feet. 247.13
Above or below—				
Mean stage of April, 1918.....	+0.28	+0.24	-0.05	-0.04
Mean stage of May, 1917.....	-0.61	+0.52	-0.80	+0.62
Average stage for May, last 10 years.....	-0.19	+1.15	-0.59	+0.31
Highest recorded May stage.....	-1.31	-1.88	-2.22	-1.82
Lowest recorded May stage.....	+0.92	+2.08	+0.89	+2.17
Average relation of the May level to—				
April level.....	+0.3	+0.4	+0.4	+0.4
June level.....	-0.3	-0.3	-0.2	-0.2

\* Lake St. Clair's level: In May, 575.11 feet.